

Appl. No. : **Unknown**
Filed : **Herewith**

processing circuitry disposed within said housing and operatively coupled to said patient interface circuitry and said second interface, said processing circuitry adapted to process said impedance and ECG signals in order to generate an output signal related at least in part to the cardiac function of said subject.

REMARKS

Claims 1-86 were pending in the application. By this paper, Applicant has canceled Claims 16, 22-31, 37-39, 43-45, 49-59, 69, 71-73 and 80-86 without prejudice, amended Claims 1, 32, and 70, and added new Claims 87-101. Hence, Claims 1-15, 17-21, 32-36, 40-42, 46-48, 60-68, 70, 74-79 and 87-101 are presented herein for examination.

Amendments to Specification

Applicant herein amends the specification, particularly the "Summary of the Invention" section, so as to make the relevant portions of this section generally consistent with the scope of the claims.

Applicant has also amended the priority claim to properly reflect the parent application(s) hereto.

An editorial error in reference numbering has also been corrected.

Applicant submits that no new matter has been added by the foregoing amendments.

Information Disclosure Statement

Applicant submits herewith an information disclosure statement (with PTO Form 1449) citing twenty-eight (28) references. Applicant respectfully requests that the Examiner consider these references pursuant to 37 CFR §1.97.

Claim Rejections

Per the September 13, 2002 Office Action of the parent application hereto; i.e., U.S. Application Serial No. 09/903,473 filed July 10, 2001 of the same title ("Office Action"), the Examiner rejected Claims 1-15, 17-21, 32-36, 40-42, 46-48, 58-68, 70, and 74-79 of the parent

Appl. No. : **Unknown**
Filed : **Herewith**

case (which are identical to the corresponding claims as filed in the present application). Specifically, Claims 1-5, 8-15, 17-21, 32-34, 36, 40-42, 46-48, 58-62, 64-68, 70, and 74-79 were rejected under 35 U.S.C. §103 as being obvious over U.S. Patent No. 5, 505,209 to Reining (“Reining”), and Claims 6, 7, 35, and 63 were rejected as being obvious over Reining in view of U.S. Patent No. 6,016,445 to Baura (“Baura”).

Claims 58 and 59 have been cancelled without prejudice herein, thereby rendering the rejections with respect to these claims moot. Applicant now addresses the foregoing rejections.

Claim 1 – By this paper, Claim 1 has been amended to add limitation relating to the recited first interface further comprising a multiplexer adapted to selectively multiplex individual ones of the second signals. This limitation is supported at, *inter alia*, page 26, lines 12-19 of the specification as filed. Neither Baura nor Reining teach or suggest a signal interface with multiplexer which selectively multiplexes the second (e.g., ECG) signals as recited in the amended Claim 1. Reining teaches “dumb” or rote multiplexing of both ICG and ECG signals via a standard MUX (element 32 in Fig. 1 of Reining), which is distinguished from Applicant’s claimed selective or “intelligent” multiplexing.

Furthermore, none of the other cited references teach or suggest each of the limitations of Claim 1 as amended herein. Hence, Claim 1 is therefore believed to be patentable over the art of record.

Additionally, since Claims 2-15 and 17-20 depend either directly or indirectly from Claim 1, these claims also define patentable subject matter.

Claim 21 - Applicant respectfully traverses the Examiner’s rejection Independent Claim 21 on substantive grounds. Claim 21 recites (in relevant part) first and second digital processors. Neither Reining nor Baura teach or suggest the use of first and second digital processors which perform the recited functions. Based on the differences in the recited functions of each of the first and second processors, one cannot be considered merely an extension or multiplication of the other. Hence, Applicant respectfully submits that Claim 21 defines non-obvious subject matter.

Appl. No. : **Unknown**
Filed : **Herewith**

Claim 32 - By this paper, Claim 32 has been amended to add limitation relating to removing at least one of respiration and motion artifact from at least one of the impedance and cardiographic waveforms. Support for this limitation is present at, *inter alia*, page 25, lines 27-29 of the specification as filed. Neither Reining nor Baura teach or suggest removing either motion or respiration artifact as recited in the amended Claim 32.

Furthermore, Applicant respectfully submits that none of the other cited references teach or suggest each of the limitations of Claim 32 as amended herein. Hence, Claim 32 is therefore believed to be patentable over the art of record.

Additionally, since Claims 33-36, 40-42, and 46-48 depend either directly or indirectly from Claim 32, these claims also define patentable subject matter.

Claim 60 – Applicant respectfully traverses the Examiner’s rejection Independent Claim 60 on substantive grounds. Claim 60 recites in relevant part:

“...a first interface adapted to receive;

(i) first signals from at least one electrodes, said first signals being related to the thoracic impedance of said subject resulting from the application of said stimulation current thereto; and

(ii) second signals from at least one electrode, said second signals being related to the ECG of said subject; and...”

Neither Reining nor Baura teach or suggest a single interface adapted to receive both the first signals (e.g., impedance) and the second signals (e.g., ECG) as recited in Claim 60. Reining *teaches away* from the single interface of the claimed invention, illustrating in Fig. 1 (the sole embodiment disclosed) four plainly separate interfaces; i.e., (i) stimulation, (ii) impedance, (iii) ECG “vertical”; and (iv) ECG “horizontal”. Contrast the exemplary apparatus of Figs. 17a-17c of Applicant’s specification, wherein a single interface 1708 is used for all stimulation, impedance signal, and ECG signal functions. This single interface aids in centralization of a plurality of patient signals into one physical location (see, e.g., page 36, lines 29-30 of

Appl. No. : **Unknown**
Filed : **Herewith**

Applicant's specification) and specifically one physical connector, thereby greatly simplifying connection of the apparatus to a subject.

Hence, Applicant respectfully submits that Claim 60 is not obvious over Reining or any other reference, and therefore defines patentable subject matter. Furthermore, since Claims 61-68, 70, and 74-79 depend either directly or indirectly from Claim 60, each of these claims are allowable as well.

New Claims

New Claims 87-101 are provided herein. Support for these claims is present throughout the specification as filed, and accordingly these new claims introduce no new subject matter. Applicant respectfully submits that each of the new claims distinguish over the art of record, and accordingly are in condition for allowance as well.

Applicant hereby specifically reserves the right to prosecute claims of different or broader scope, including those cancelled herein, in a continuation or divisional application.

Applicant notes that any claim cancellations or additions made herein are made solely for the purposes of more clearly and particularly describing and claiming the invention, and not for purposes of overcoming art or for patentability. The Examiner should infer no (i) adoption of a position with respect to patentability or narrowing of any claim(s), (ii) change in the Applicant's position with respect to any claim or subject matter of the invention, or (iii) acquiescence in any way to any position taken by the Examiner, based on such cancellations or additions. Furthermore, remarks made in the context of a given claim should only be considered to apply to that claim.

Appl. No. : **Unknown**
Filed : **Herewith**


If the Examiner has any questions or comments which may be resolved over the telephone, he is requested to call the undersigned at (858) 675-1670.

Respectfully submitted,

GAZDZINSKI & ASSOCIATES

Dated: July 8, 2003

By: _____


Robert F. Gazdzinski
Registration No. 39,990
11440 West Bernardo Court, Suite 375
San Diego, CA 92127
Telephone (858) 675-1670
Facsimile (858) 675-1674